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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/974,878	10/12/2001	Isamu Hotta	040302-0278	7600

22428 7590 05/03/2004

FOLEY AND LARDNER  
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3000 K STREET NW  
WASHINGTON, DC 20007

EXAMINER

TRAN, DIEM T

ART UNIT PAPER NUMBER

3748

DATE MAILED: 05/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/974,878

Applicant(s)

HOTTA ET AL.

Examiner

Diem Tran

Art Unit

3748

-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on the amendment filed on 3/25/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

This office action is in response to the amendment filed on 3/25/2004. The Examiner has reconsidered the indicated allowability of claims 1, 7-11; therefore, the last Advisory action is hereby withdrawn, the after-final amendment filed 1/28/2004 has not been entered, a new rejection is set forth below.

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**2. *Claims 1, 7, 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Bennett et al. (US Patent 5,939,028).***

Regarding claim 1, Bennett discloses an exhaust emission control device of an internal combustion engine, comprising:

a CO oxidation catalyst; and a water trap disposed upstream of and close to the CO oxidation catalyst, the water trap being supported separately from the CO oxidation catalyst (see col. 8, lines 18-25).

Regarding claim 7, Bennett further discloses the CO oxidation catalyst has low temperature light-off characteristics (see col. 6, lines 43-47; col. 9, lines 48-55).

Regarding claim 8, Bennett further discloses a secondary air supply unit disposed upstream of the water trap (see Figure 1).

**3. Claims 2-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Frost et al. (US Patent 5,776,417).**

Regarding claims 2, 4, Frost discloses an exhaust emission control device of an internal combustion engine, comprising:

an underfloor catalyst wherein a CO oxidation catalyst and a water trap are coated on a support (see col. 3, lines 14-19); and

a HC trap disposed upstream of the water trap (see Figure 1, see col. 7, lines 9-10, 24-25).

Regarding claim 3, Frost further discloses the water trap being disposed upstream of the CO oxidation catalyst (see col. 2, lines 21-30).

Regarding claims 5, 6, Frost further discloses that the water trap and CO oxidation catalyst are disposed as layers or mixed to each other (see col. 3, lines 14-22).

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett et al. in view of Frost et al (JP 409103645).**

Regarding claim 9, Bennett discloses all the claimed limitations as discussed in claim 1 above; however, fails to disclose a HC trap disposed upstream of the water trap. Frost teaches that it is conventional in the art, to utilize a HC trap disposed upstream of the water trap (see SOLUTION, lines 15-18).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized HC trap disposed upstream of the water trap as taught by Frost in the Bennett device since such would have increased the efficiency of the emission control system.

**6. *Claims 10, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett et al. in view of Mizuno et al. (US Patent 6,029,441).***

Regarding claim 10, Bennett discloses all the claimed limitations as discussed in claim 1 above, Bennett further discloses a secondary air supply unit disposed upstream of the water trap (see Figure 1); however, fails to disclose a HC trap disposed upstream of the secondary air supply unit. Mizuno teaches that it is conventional in the art, to utilize a HC trap (10) disposed upstream of the secondary air supply unit (16) (see Figure 2; see col. 8, lines 51-63).

Regarding claim 11, Bennett discloses an exhaust emission control device of an internal combustion engine, comprising:

a low temperature light-off CO oxidation catalyst (see col. 9, lines 48-55); a water trap disposed upstream of and close to the CO oxidation catalyst, the H<sub>2</sub>O trap being supported separately from the CO oxidation catalyst (see col. 8, lines 18-25); a secondary air supply unit disposed upstream of the water trap (see Figure 1); however,

fails to disclose a HC trap disposed upstream of the secondary air supply unit. Mizuno teaches that it is conventional in the art, to utilize a HC trap disposed upstream of the secondary air supply unit (see Figure 2; see col. 8, lines 51-63).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized HC trap disposed upstream of the secondary air supply unit as taught by Mizuno in the Bennett device since such would have increased the efficiency of the emission control system.

### ***Response to Arguments***

Applicant's arguments filed 5/7/03 have been fully considered but they are not deemed-persuasive.

In the amendment filed on 5/7/03, the Applicant argued that the Bennett reference fails to disclose arranging the water trap upstream and close to the CO oxidation catalyst. The Examiner respectfully disagrees, the Bennett reference discloses that the water trap is located upstream of the CO oxidation catalyst (see col. 8, lines 23-24). In the pending application, claim 1 does not say how close the water trap and the CO oxidation catalyst are, accordingly the Bennett reference discloses water trap located upstream of the CO oxidation catalyst which appears to the Examiner to be just as close as that of the instant invention. Claims in a pending application are given their broadest reasonable interpretation See *In re Pearson*, 181 USPQ 641 (CCPA 1974). Regarding claim 2, Applicant argued that the Frost reference fails to disclose the HC trap is disposed upstream of an H<sub>2</sub>O trap. The

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Examiner respectfully disagrees, the Frost reference discloses that a second water trap is positioned downstream of the catalyst i.e. downstream of the HC trap (see col. 7, lines 9-10, 24-25).

**Conclusion**

Any inquiry concerning this communication from the examiner should be directed to Examiner Diem Tran whose telephone number is (703) 308-6073. The examiner can normally be reached on Monday -Friday from 8:30 a.m.- 5:00p.m.

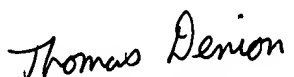
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (703) 308-2623. The fax number for this group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.



Diem Tran  
Patent Examiner  
Art unit 3748

DT  
April 28, 2004



THOMAS DENION  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700